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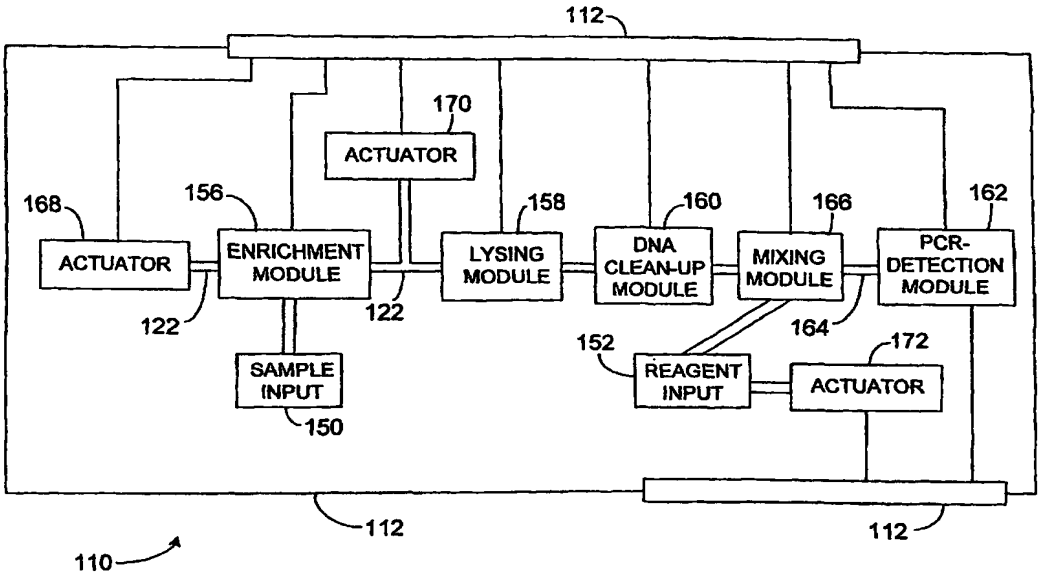
(54) Title: PROCESSING PARTICLE-CONTAINING SAMPLES



(57) Abstract: A microfluidic device includes an input port for inputting a particle-containing liquidic samples into the device, a retention member, and a pressure actuator. The retention member is in communication with the input port and is configured to spatially separate particles of the particle-containing liquidic sample from a first portion of the liquid of the particle containing fluidic sample. The pressure actuator recombines at least some of the separated particles with a subset of the first portion of the liquid separated from the particles. The device can also include a lysing chamber that receives the particles and liquid from the retention member. The lysing chamber thermally lyses the particles to release contents thereof.

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